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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,259	09/12/2005	Anthony Thomas Harcombe	DP-308435	2953

22851 7590 11/28/2007
DELPHI TECHNOLOGIES, INC.
M/C 480-410-202
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TROY, MI 48007

EXAMINER

MCGRW, TREVOR EDWIN

ART UNIT	PAPER NUMBER
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3752

MAIL DATE	DELIVERY MODE
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11/28/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/520,259	HARCOMBE ET AL.	
	Examiner	Art Unit	
	Trevor McGraw	3752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5,6,10,12,17 and 19 is/are pending in the application.
- 4a) Of the above claim(s) 8,11 and 13-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,6,10,12,17 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 January 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/05, 7/17/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Species C in the reply filed on 09/10/2007 is acknowledged.

Claims 8, 11 and 13-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 09/10/2007.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

Reference number "82" has been used to designate both "drilling" and "plate valve" as disclosed in Figures 5 and 6. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5, 6, 10, 12, 17 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Pataki et al (US 5,396,926).

In regard to Claims 1-3, Pataki et al. (5,396,926) teach a control valve arrangement for use in controlling fuel pressure within a control chamber, the control valve arrangement has a control valve member (12), which is movable between a first position to engage a first seating (44) in which the control chamber (40) communicates with a source of high pressure fuel (8), and a second position to engage a second seating (38) in which the control chamber (41) communicates with a low pressure fuel drain (10) and communication between the control chamber (41) and the source of high pressure fuel (8) is broken, where the first seating (38) is defined by a surface of a bore

provided in a valve housing that the control valve member (12) is movable. A restricted flow path (pathway from "42" to "10") restricts the rate of flow of fuel from the control chamber (41) to the low pressure fuel drain (10) when the control valve member (12) is moved from the first position to the second position where the restricted flow path (pathway from "42" to "10") has a restricted flow passage (42) located between the first seating (44) and the second seating (38).

The restricted flow path is operable for restricting the rate of fuel flow from the high pressure fuel source (8) to the low pressure drain (10) when the control valve member (12) is moved between the second position and the first position to reduce the loss of high pressure fuel to low pressure.

The restricted flow path is also arranged so fuel flow rate out of the control chamber to the low pressure drain is relatively low whereas the fuel flow rate into the control chamber is relatively high (see "6" and "8"; high pressure fuel input) and provides asymmetric control valve operation.

In regard to Claims 5 and 6, the control valve member of Pataki et al is movable within the bore provided in the valve housing where an insert (16) is arranged within the bore in the valve housing to define the first seating (44) and the second seating (38) is defined by a surface of the bore provided within the valve housing.

Regarding Claims 10 and 12, Pataki et al further teach where the restricted flow path (pathway from "42" to "10") is arranged upstream of the first seating (44) and downstream of the second seating (38) where the restricted flow path (pathway from

"42" to "10") is defined by an orifice provided in the control valve member (see orifice opening of "42" within control valve member "12" in Figure 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pataki et al. (US 5,396,926) in view of Harcombe (US 6,889,918).

In regard to Claims 17 and 19, Pataki et al as taught and described above, is silent on having a control valve arrangement being used in conjunction with a fuel injector for use in delivering fuel to an internal combustion engine where the fuel injector has a valve needle that engages with a valve needle seat to control fuel delivery through an outlet opening, and a surface associated with the valve needle is exposed to fuel pressure within a control chamber and a control valve arrangement for controlling fuel pressure within the control chamber. However, Harcombe teaches where a control valve arrangement is used with a fuel injector for use in delivering fuel to an internal combustion engine where the fuel injector has a valve needle that engages with a valve needle seat to control fuel delivery through an outlet opening and a surface associated with the valve needle is exposed to fuel pressure within the control chamber. It would

have been obvious to one having ordinary skill in the art at the time the present invention was made to afford the control valve arrangement of Pataki et al with the fuel injector of Harcombe in order to provide for improved precision of controlled fuel delivery to a internal combustion chamber.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-3, 5, 6, 10, 12, 17 and 19 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 6,889,918 in view of US Patent No. 5,396,926. The 6,889,918 Patent teaches all the limitations of the present invention except where the restricted area is

located between the first and second seating portions. However, the 5,396,926 Patent teach where a restricted area is provided between first and second seating portions. Thus, it would have been obvious to one having ordinary skill to provide the control valve arrangement of the 6,899,918 patent with the restricted area located between the first and second seats of the 5,396,926 patent in order to provide for a control valve arrangement with improved delivery to an internal combustion engine.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Frank et al. (US 6,168,132), Boecking et al. (US 6,581,850), Potschin et al. (US 6,168,096), Ohnishi et al. (US 4,951,874).

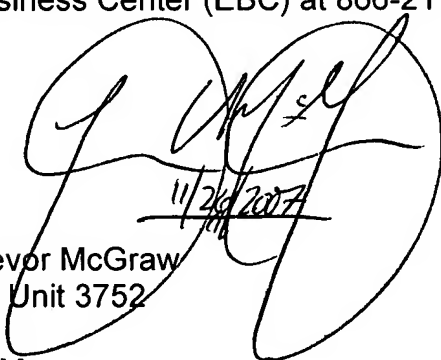
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trevor McGraw whose telephone number is (571) 272-7375. The examiner can normally be reached on Monday-Friday (2nd & 4th Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on (571) 272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:
10/520,259
Art Unit: 3752

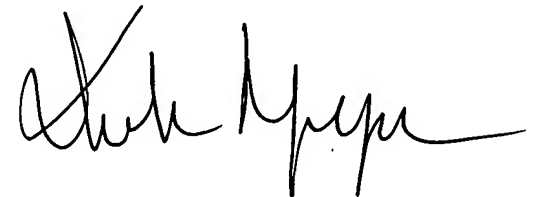
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Trevor McGraw
Art Unit 3752

TEM



DINH Q. NGUYEN
PRIMARY EXAMINER